



Learn more about bats and other species at risk by participating in the numerous educational activities and interpretive programs offered at Kouchibouguac National Park.

Keeping up with bats!

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Best practices of Kouchibouguac National Park

MONITORING + CONSERVATION EFFORTS AT KOUCHIBOUGUAC NATIONAL PARK

Do You Hear What I Hear?

In 2015 and 2016, highly specialized machines capable of recording ultrasonic sounds emitted by bats were installed at 25 observation sites in Kouchibouguac National Park. The data collected by these digital recorders confirm the presence of bats in the area, as well as their levels of activity within park boundaries.

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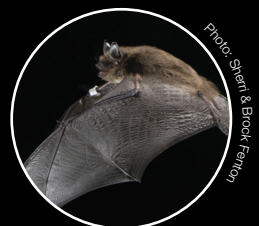
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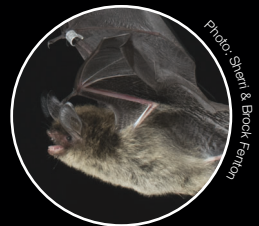
GENERAL INFO

Bats have been evolving for more than 50 million years. Found on every continent except Antarctica, these flying mammals have adapted and developed numerous strategies in order to survive in various ecosystems. Currently, there are more than 1300 species of bats that have been identified throughout the world!

There are 48 bat species throughout North America, with 19 species found in Canada. Three smaller bat species hibernate in New Brunswick during the winter months: the **little brown bat**, the **northern long-eared myotis** and the **tri-coloured bat**. All three hibernating species are listed in the registry of Species at Risk Act in Canada, which means they are now protected under federal and provincial laws. There are also four larger, migrating bat species that visit the province regularly during the summer: the **big brown bat**, the **hoary bat**, the **red bat** and the **silver-haired bat**.



Little brown bat
Myotis lucifugus



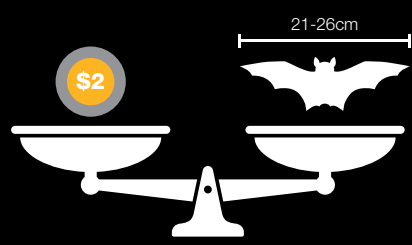
Northern long-eared myotis
Myotis septentrionalis



Tri-colored bat
Perimyotis subflavus

DID YOU KNOW?

The smallest bat species in Canada is the **tri-colored bat** which has a wingspan of only 21 to 26 cm and weighs no more than a toonie, around 7 grams!



Such a long lifespan!

Certain chiropterans can live more than 30 years in the wild!



THINGS YOU CAN DO TO HELP

Become a real bat superhero by following these simple steps:

Avoid visiting mines, caves and abandoned buildings or other places where bats may hibernate. Humans can unknowingly spread the white-nose fungus to new areas.

Respect Dark Sky Preserve guidelines by limiting light pollution and use of flashlights at night.

Continue learning about these fascinating creatures and share your knowledge about the cool lifestyle of bats.

If you find a bat (dead or alive) in a national park, please contact a Parks Canada employee.



Photo: Sherril & Brock Fenton

White-nose syndrome is a fungal disease introduced from Europe that has quickly spread throughout eastern North America since 2006. First appearing in New Brunswick in 2010, the white powdery fungus grows on the noses, faces and wings of infected bats, awakening them prematurely from their hibernation. Sadly, the burning of previous fat reserves, combined with lack of food availability during winter, often result in a tragic death for many hibernating bat species.

Chemical contamination and pesticide use
The spraying of pesticides reduces food availability and it can have devastating effects for chiroptera. When a bat ingests a contaminated prey, the chemical toxins found within the insect are absorbed, then stored in fat reserves and can also be transmitted to the young ones through the maternal milk. Many bat species rely on their fat reserves to survive the winter, making them vulnerable to the negative effects of insecticides.

Big appetite!

Bats are the main natural predators of flying insects and they can devour more than 50% of their total body weight in moths, beetles and mosquitoes per night! This represents approximately **600 insects per hour** and is the same as a 60-kg person eating 30 kg of food per day!

DID YOU KNOW?

Bats are the only mammals in the world capable of true flight.

Colony eradication
Maternity colonies are located in warmer areas of buildings and houses such as attics, between walls or even inside chimneys. It is important to never dislodge a maternity colony during the gestation or reproduction periods from May to August. Before removing a bat colony, one must have a reestablishment plan, which can be as simple as installing bat houses as close to the existing colony as possible. It is against the law to fumigate or poison bat colonies.

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BAT ANATOMY

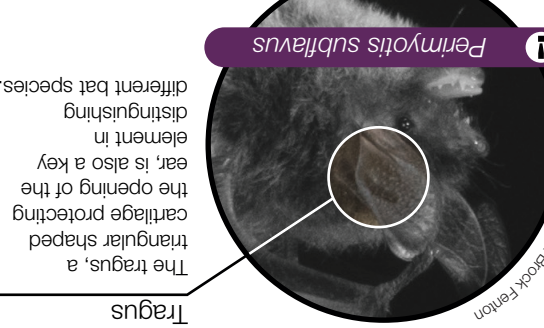


Myotis lucifugus

Metacarpals

Phalanges

Bats are nocturnal mammals belonging to the taxonomic group Chiroptera. In Greek, the prefix chiro signifies "hand" and the suffix ptera meaning "wing". Indeed, the very elongated metacarpals and phalanges are covered by a layer of skin, thus enabling bats to easily move about in the air thanks to their "winged hands".



Perimyotis subflavus

The tragus, a triangular shaped cartilage protecting the opening of the ear, is also a key element in distinguishing different bat species.

Oh my! What big ears you have, Mrs. Myotis!
Bats rely on their acute sense of hearing to supplement their night vision. This is why they have such large ears in comparison to the size of their tiny head. The wide pinna of the ear easily captures the returning ultrasound waves during echolocation.



Echolocation phenomenon
Bats emit short clicking sounds (ultrasounds) inaudible to the human ear) which bounce off objects just like an echo, guiding them to avoid or catch prey during flight. Thanks to echolocation, bats can navigate easily in darkness, feed on various insects in mid-air, as well as pick up vital information such as size and texture of hunted prey!

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Kouchibouguac National Park

BATS

A closer look at our species at risk



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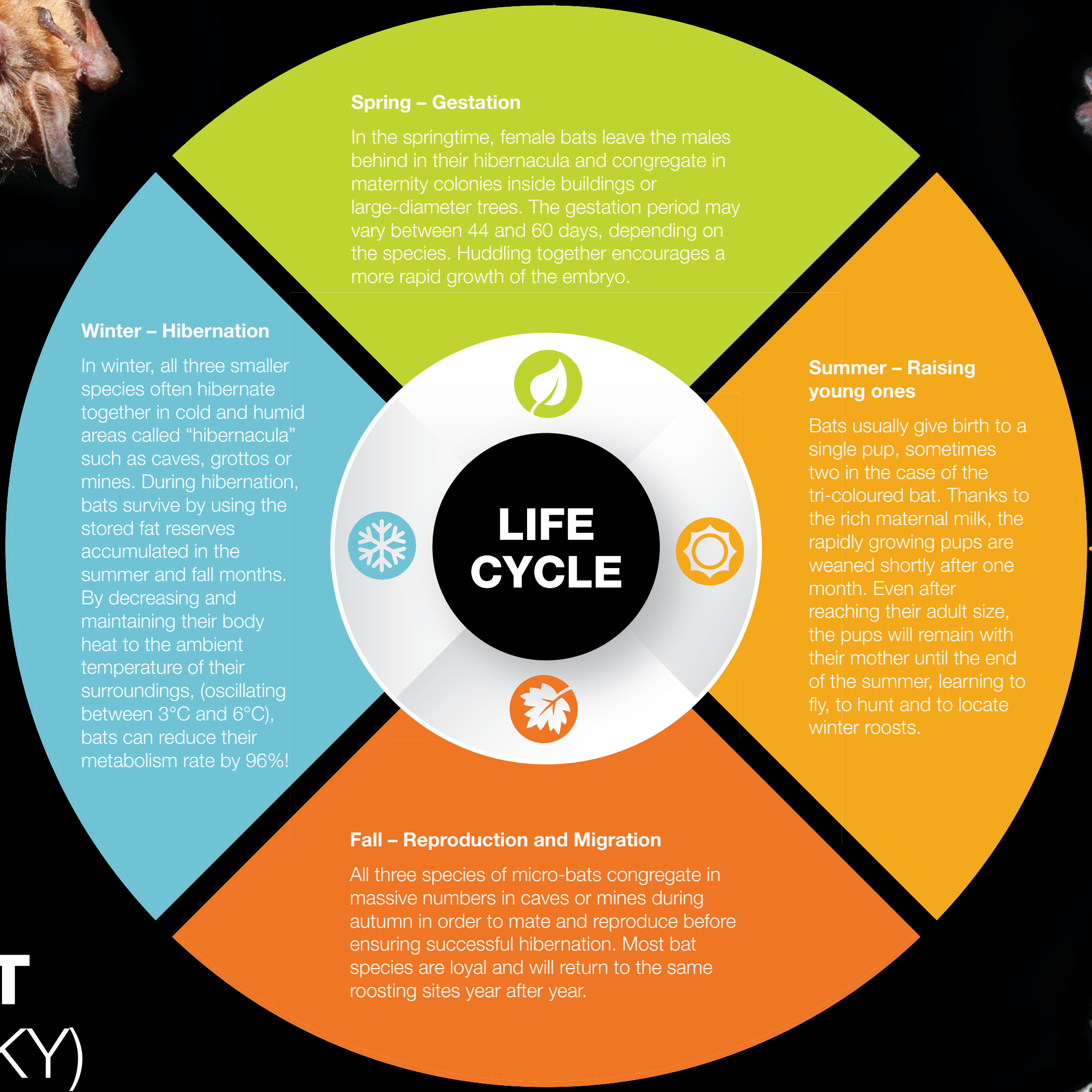
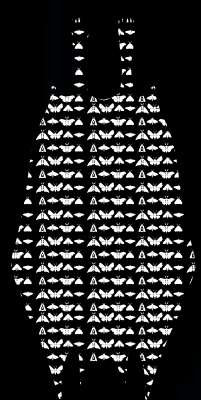
Canada



Photo: Sherri & Brock Fenton

! FUN FACT

During the gestation period, a female bat can eat the equivalent of its total body weight in one night only!



Spring – Gestation

In the springtime, female bats leave the males behind in their hibernacula and congregate in maternity colonies inside buildings or large-diameter trees. The gestation period may vary between 44 and 60 days, depending on the species. Huddling together encourages a more rapid growth of the embryo.

Winter – Hibernation

In winter, all three smaller species often hibernate together in cold and humid areas called “hibernacula” such as caves, grottos or mines. During hibernation, bats survive by using the stored fat reserves accumulated in the summer and fall months. By decreasing and maintaining their body heat to the ambient temperature of their surroundings, (oscillating between 3°C and 6°C), bats can reduce their metabolism rate by 96%!

Summer – Raising young ones

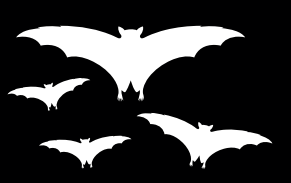
Bats usually give birth to a single pup, sometimes two in the case of the tri-coloured bat. Thanks to the rich maternal milk, the rapidly growing pups are weaned shortly after one month. Even after reaching their adult size, the pups will remain with their mother until the end of the summer, learning to fly, to hunt and to locate winter roosts.

Fall – Reproduction and Migration

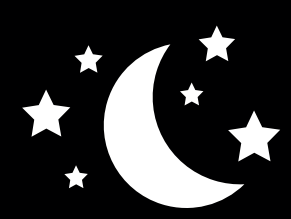
All three species of micro-bats congregate in massive numbers in caves or mines during autumn in order to mate and reproduce before ensuring successful hibernation. Most bat species are loyal and will return to the same roosting sites year after year.

! FUN FACT

Bat moms sometimes fly with their newborn pups. The young one clings to its mother’s underarm nipple by the mouth and hangs onto her waist with its toes. Hold on tight little one!

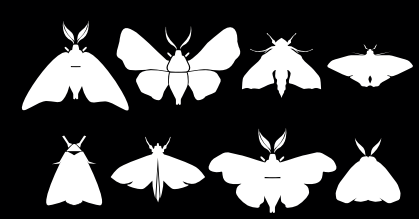


HABITAT (DARK SKY)



Darkness Prevails

As nocturnal creatures, bats appreciate dark habitats with little or no light pollution. Kouchibouguac National Park’s Dark Sky Preserve is an ideal environment for bats, as feeding occurs mostly at dusk and dawn, when insects are more active.



Where To Eat?

The ecotone - the meeting of two different ecosystems - is often considered a choice feeding place for bats. They frequently visit beaver ponds, calm water streams or open spaces surrounded by forest; for example, where bogs and the Acadian forest meet, two major habitats of Kouchibouguac National Park.



Photo: Sherri & Brock Fenton